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THESIS

APPLICATION OF CORPORATE OUTSOURCING METHODS TO THE DEPARTMENT OF DEFENSE

by

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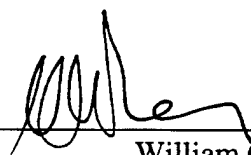
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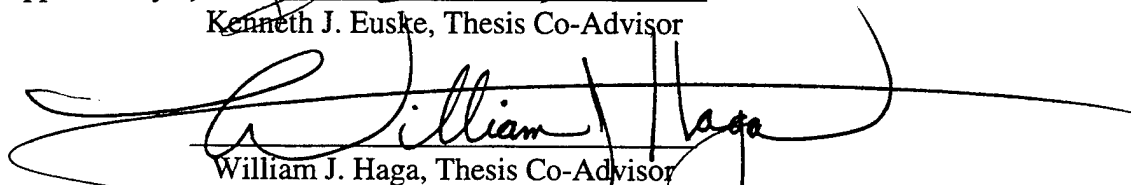**June 2000**

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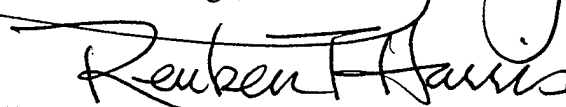
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I. INTRODUCTION

A.   PURPOSE

As the United States federal government continues to seek reform and efficiencies in the military, outsourcing, base closures, downsizing, and reengineering are its top considerations. (NPR Homepage, 2000) Outsourcing often goes hand-in-hand with one of the other three in plans to meet reform goals. As a result of the 1996 Quadrennial Defense Review, the Department of Defense (DoD) initiated competitions involving more than 34,000 positions in Fiscal Year 1997 and pursued competitions for 30,000 positions each fiscal year since, with the same annual effort planned until Fiscal Year 2002. These annual figures are three times larger than those of any year in the last two decades. Candidates for competition include civilian and retiree payments, personnel services, surplus property disposal, national stockpile sales, leased property management and drug testing laboratories. (NPR Homepage, 2000)

In the face of this growing interest in outsourcing, DoD lacks a methodology to assess which organizational functions ought to be outsourced. This thesis examines the outsourcing policies and practices of two U.S. corporations to provide lessons and models for use in developing a methodology to be employed by DoD activities to assess functional feasibility for specific outsourcing initiatives. Although DoD builds on its own experience by continually evaluating its military and civilian workforce to identify functions to be competed, knowledge of outsourcing methods used by American

corporations would be valuable in tailoring DoD's approach to its outsourcing efforts.

Without such a methodology, DoD is likely to misapply resources in outsourcing efforts.

B.   METHODOLOGY

Research consisted of a literature review, which is presented in Chapter II, and a

review of corporate archival data pertaining to outsourcing and organizational structure at

Kodak and BellSouth Telecommunications (BST). Also, I conducted nine separate

interviews – six at Kodak Corporation and three at BellSouth Telecommunications (BST)

– of managers in charge of divisions that use outsourcing. To obtain the interviews, I

conducted a two-day visit to each organization, during which time I spent approximately

three hours per day with the executive hosting my visit. Time spent with the executives

was used to discuss outsourcing, and to review the findings of the interviews, putting

them in the context of the organization at large. At Kodak, the executive was a Technical

Associate on the Research and Development staff; at BST, the executive was a Senior

Director. The findings of the interviews at Kodak and BST are presented in Chapters III,

and IV, respectively. The interviews, each approximately one hour in length, were not

tape-recorded; I took written notes. Interviewees were provided the questions in the

Appendix in advance of the interviews. Although the interviews began with a review of

the questions, the discussion was not limited to the questions.

The literature review was conducted to provide an overview of outsourcing,

including a definition, description of purpose and brief history of outsourcing. Although

the managers' experiences varied with the interviews, the discussions centered on three major topics. The findings of each interview are reported in terms of these three topics. The first two topics were interviewees perceptions of the purpose of outsourcing and functions that they felt lent themselves to outsourcing. These two factors, combined with corporate priorities and culture, indicated the organizations' approach to or methods for outsourcing, which comprised the third major topic. The three topics or categories are discussed below.

1. Purpose of Outsourcing

With regard to the purpose of outsourcing, topics that were covered included whether outsourcing was considered primarily a cost-saver, quality-enhancer, act of convenience, or strategic act.

2. Functions Which Lend Themselves to Outsourcing

These questions focused on why certain functions lend themselves more to outsourcing than others, which functions, if any, are considered exempt from outsourcing and why. Discussion of "core" functions – including what makes them core and whether or not they should be exempt from outsourcing – ensued. Included in this area are obstacles to outsourcing created by the nature of the functions outsourced.

3.   Organizational Approach to Outsourcing

This portion of the discussion centered on the decision process and methods by which organizations decided to outsource functions. In the course of the interviews, I worked with the interviewees to determine if a process existed to decide whether or not to outsource a function. Details discussed included what levels of the organization participated in the decisions, what levels held decision authority, what justification was required of the outsourcing division by the organization, the degree to which corporate strategy was considered by the division, and finally, the methods used to implement outsourcing. Included in this section are success factors, lessons learned, and obstacles to outsourcing created by the approach taken.

II. OUTSOURCING: A LITERATURE REVIEW

A.   INTRODUCTION

The literature review is to provide an understanding of the definition, purpose, history, and future of outsourcing. Also provided by the review is a look at the uses of outsourcing, basic outsourcing techniques and the views of outsourcing held in corporate America.

B.   THE DEFINITION OF OUTSOURCING

"Outsourcing is the act of transferring some of a company's recurring internal activities and decision rights to outside providers, as set forth in a contract." (Greaver, 1999, p. 3) The term "outsourcing" has been applied to different relationships across a variety of business areas, and has existed in many forms. No matter how it is defined, the essence of the definition is a contractual agreement between the customer and one or more suppliers to provide services or processes that the customer is currently providing internally. The nature of the activity provided is the critical difference between outsourcing and normal customer supplier relationships. Outsourcing is occurring when the activity, processes or services being provided by the supplier were previously performed internally by the customer. This opinion is felt in the workplace as well. Greer et al. (1999), referring to 26 executives from 25 organizations he interviewed,

states that they view the process of outsourcing differently from purchasing, and subcontracting. They feel that outsourcing occurs when a company contracts with a vendor to perform an activity normally performed by the company. In contrast, procurement implied that the company has not previously performed the activity. (Greer et al., 1999, p. 85)

C.   THE HISTORY OF OUTSOURCING

The practice of outsourcing is nothing new; it has been done by companies for decades. Although the term was invented in the late 1980's to describe the growing trend of large companies transferring their information systems to providers, such services can be traced back to World War II when systems facilities management services were provided to the U. S. federal government. Inasmuch as it resembles subcontracting, joint venturing and strategic partnerships, it dates back hundreds of years; farmers hire migrant workers to supplement their staffs at certain times of the year, and governments engaged in strategic partnerships with arms producers, who in turn, subcontracted out various portions of their work. (Greaver, 1999, p. 10) Whenever resources such as knowledge, capacity or funds were not available to complete the work internally, organizations outsourced. (Davis et al., 1998, p. 38)

D.   THE FUTURE OF OUTSOURCING

There is, however, a growing trend towards outsourcing. There have been changes leading to the embracing of outsourcing. Large organizational size is no longer seen as an advantage, small niche competitors can rapidly change industries and their cost structures, focused management is a prerequisite to success, and continuous performance improvements are critical for survival. Also, in an increasingly global economy, competitive pressures are intensifying, and technology and knowledge, regarded as the most critical weapons are expensive to acquire and difficult to install internally. Although, in the past, outsourcing was used to remedy organizational incompetence, under capacity, or technological failure, it is now being used to improve successful organizations by allowing management to focus on customer needs and core competency building. (Greaver, 1999, pp. 12-13)

The market for providers of outsourced services of all types is growing rapidly. According to information gathered from Dun & Bradstreet's data base, the number of outsource providers increased 65 percent between 1989 and 1994. (Newswatch-Industry Focus, 1994, p. 23) Outsourcing is expected to grow at rates in the double digits through the next decade. (Greaver, 1999, p. 14) In 1996, American businesses spent over $100 billion in outsourced activities. (Greer et al., 1999, p. 85) A survey that year by KPMG Peat Marwick LLP of Fortune 500 companies showed 94 percent of CEOs outsourced, with many predicting a marked increase. It found that 86 percent expected to outsource additional processes over the next five years. (CEO Briefing, 1996, p. A3) Also in 1996,

AMA Research (a division of American Management Association) surveyed their member companies, receiving responses from 619 firms. Of the respondents, 94 percent outsourced at least one of 37 activities listed by AMA; the average number outsourced was nine. Globally, the use of outsourcing grew by 35 percent for the 12 months ending in June 1997. (Greer et al., 1999, p. 85) The Outsourcing Institute predicts the size of the market to increase to $318 billion in 2001, more that tripling the 1996 figure. (Davis et al., 1998, p. 38)

E.   TACTICAL VERSUS STRATEGIC OUTSOURCING

Outsourcing is well accepted as a solution for tactical problems. As such it is used to obtain specific support functions or resolve isolated issues. In fact, among support activities, nothing is exempt from outsourcing. It is used tactically to acquire all kinds of support services, including accounting, procurement, human resources, custodial services, records management, and IT, and it is growing across-the-board. (Davis et al., 1998, p. 38) For example, a 1997 survey of human resource trends of 1,700 organizations reported that 53 percent planned to outsource human resource services more in the future. (Greer et al., 1999, p. 85) Similarly, in recent study by Input, an IT market research company, it was reported that the U.S. outsourcing market for IT services will experience an annual growth rate of 22 percent through 2003. (Kearney, 2000, p. 36) Outsourcing is also beginning to be used for the activities involved with the core competencies of firms. This type of outsourcing, known as "strategic outsourcing,"

takes the practice to a higher level, prompting fundamental questions about its relevance

to the organizations vision, core competencies, structure, costs, performance, and

competitive advantages. (Greaver, 1999, p. 8)

F. WHO OUTSOURCES?

Outsourcing is not unique to companies of any particular size. Large firms do it;

in 1996, Hewitt Associates surveyed large employers, finding that 93 percent of

respondents outsourced some of their HR functions. (Greer et al., 1999, p. 85) The trend

in larger firms is to outsource entire processes, using strategic relationships, beginning

with processes farthest from the core and working toward it. (Greaver, 1999, 13) Small

firms do it; *Inc.* recently reported that 35 percent of the companies they surveyed with

less than $500,000 in revenues were involved in an outsourcing arrangement of some

kind. (Davis et al., 1998, p. 38) Small and midsize organizations tend to outsource

individual activities and even positions as the need arises. (Greaver, 1999, p. 14)

G. WHY OUTSOURCE?

At any given time there will be a different list of "top five reasons to outsource"

floating around, each differing from the one before. (Greaver, 1999, p. 3) There are

many reasons given for outsourcing, and, as with definitions, they vary with the types of

outsourcing that are used. The reasons can be grouped into six categories: cost,

organizational, improvement, revenue, financial, and employee driven reasons. (Greaver, 1999, p. 4)

1. Cost

Cost driven reasons involve reducing costs through the superior performance and lower cost structure of the provider. (Greaver, 1999, p.5) The competitive marketplace is a likely force behind the cost driven reasons; companies have to increase efficiency and decrease costs in order to keep or improve their competitive position. Cost reduction, once the only reason for outsourcing, is clearly still a major incentive. (Davis et al., 1998, p. 37) It is the primary driver behind three of the factors on the "top five" list constructed by Greer et al. (1999) with regard to outsourcing human resources (HR). His top five competitive forces, driving companies to outsource HR are downsizing, rapid growth or decline, globalization, increased competition, and restructuring. He feels that in the last 10 years, these forces have "dramatically altered the strategy and structure of many firms," causing them to "refocus their businesses, lower costs while increasing service, and improve capabilities to respond to future business challenges." Although cost is a factor in all five, three of the five – downsizing, rapid growth or decline, and increased competition – are driven primarily and directly by cost. Downsizing is, by its nature a cost savings measure. Rapid growth or decline is as well, with firms in decline facing pressures to reduce costs, while high growth firms face similar pressures to monitor costs. With regard to increased competition, outsourcing offers the possibility of

providing improved service and responsiveness at reduced cost. (Greer et al., 1999, p. 86)

It is reasonable, from a market perspective to assume that outsourcing will reduce costs. This expectation is consistent with the strategic view of competitive resource allocation, which holds that all activities unrelated to strategic core competencies should be outsourced since economies of scale allow specialized vendors to provide services at lower costs. (Greer et al., 1999, p. 88) Companies are recognizing that certain processes in their business are becoming commodities, and the more they invest in these processes in-house, the quicker they get to the point of diminishing returns. Indeed, it does not make sense to invest in an expensive infrastructure; rather, leave that to experts and pay as you go. In the area of IT, for example, this utility model would maintain that just as a firm does not generate its own electricity or have a proprietary telephone dial tone, it should not perform its own IT; it is "much cheaper and more efficient to plug into existing networks." (Kearney, 2000, p. 37)

2.   Organizational

Organizationally driven reasons consist of such things as focussing on areas that the firm does best, increasing flexibility, increasing product and service value, and transforming the organization. (Greaver, 1999, p. 4) The remaining two driving forces cited by Greer et al. (1999) – globalization and restructuring – are organizationally driven. He asserts that, as businesses advance from merely selling products and services abroad to actually conducting operations in foreign countries, and staffing those

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operations with foreign nationals, "the global imperative for outsourcing accelerates."

(Greer et al., 1999, p. 86) Strategically, although outsourcing gives organizations a

chance at competitive advantage, outsourcing simply to imitate competitors is not enough

to achieve any discernible advantage over the others since all firms have access to these

vendors. What matters is how the firm fits the outsourced service into the larger strategy.

"To the extent that outsourcing decisions are part of a larger plan to restructure (the

organization), refocus activities, and/or redeploy resources, competitive advantage is

attainable." (Greer et al., 1999, p. 86.)

3. Improvement

Improvement-driven reasons include improving performance, and risk

management, and obtaining expertise and skills that would not otherwise be available.

(Greaver, 1999, p. 4) In the words of a senior executive, "You outsource when someone

else can perform the activity better than you." Another said that companies should ask,

"What is it we will never be experts at or shouldn't spend time doing?" (Greer et al.,

1999, p. 87) Still another stated, "Outsourcing provides access to technology without

[the requirement] of purchasing it." (Greer et al., 1999, p.88) The activities provided by

specialized vendors are their core business and constitute their strategic focus. Therefore,

they produce high service and customer satisfaction. (Marinaccio, 1994, p. 41) By

replacing bureaucracy with market forces, outsourcing can provide time savings, enabling

executives to cope with time-sensitive issues and competing demands. Because of their

expertise and focus, outsourcing firms can deliver services more quickly than in-house

staff. (Greer et al., 1999, pp. 88-90) Risk mitigation, both organizational and individual, is another motivation to outsource. The organization can pass risk to the vendor, especially where rapid changes in technology or regulatory issues occurred, "syndicat[ing] the risk" when the organization cannot stay current on all the new developments in the field. Some executives attempt to reduce personal risk by outsourcing a troublesome activity. Persistent problems can then be blamed on the vendor, who is replaceable. (Greer et al., 1999, p. 90)

4. Revenue

Revenue-driven reasons involve gaining market access and business opportunities through the provider's network, and using processes and systems developed by the provider to assist expansion. (Greaver, 1999, p. 4) Not only can supplying activities provide expertise, increased capacity and proprietary technology and processes; they can also provide an understanding of regulatory criteria and regulators gained from experience employed by governmental agencies and networks formed through their involvement with other firms in the market place. (Rubin et al., 1998, p. 397) These factors can serve to increase revenues for a firm.

5. Financial

Financially driven reasons involve reducing investments in assets and freeing up resources for other financing needs. Organizations that are reluctant to invest in and maintain cutting-edge technology and specialists internally can obtain them from

firms who developed them with their own investment. Also, by transferring assets to the provider of the activity, cash can be generated for the outsourcing firm. (Greaver, 1999, pp. 4, 13)

6.   Employees

Finally, employee-driven reasons involve educating and training employees with the goal of improving their value to the firm, ultimately strengthening their career paths. (Greaver, 1999, p. 5) To this end, outsourcing can be used for the benefits derived from the process of outsourcing. It can be an educational process, or an "antidote to inward thinking," used to stimulate thought processes and keep the organizations in touch with consultants who have current and specialized information. Indeed, to derive the educational benefits, outsourcing is sometimes alternated with "insourcing" an activity, or performing it in-house. A firm may outsource for a year to learn the latest techniques, then insource it the next year for cost savings, and then outsources again the next year to learn more. (Greer et al., 1999, p.90)

H.   OUTSOURCING PITFALLS

Although there are reasons to outsource, outsourcing is not a cure-all. There are situations that do not lend themselves well to outsourcing, and even for those that do, an improperly implemented outsourcing can cause more harm than good. Also, opposition within the ranks of the outsourcing firm can spell disaster for an outsourcing effort.

There are "inhibitors" to outsourcing, which should be addressed if the initiative is to stand a chance. These include uncertainty, loss of control and core competencies, employee unhappiness, difficulty in reversing and risks of failure. (Greaver, 1999, p. 29)

1. Uncertainty

This category includes an unfamiliarity with outsourcing, doubting the existence of qualified providers, and trusting that the providers will hold up their end of the deal. One attitude is that not enough qualified people exist anywhere, so the providing firm is just as unlikely to have them as the firm in need of the service. Even allowing for the chance that the provider has qualified people it is impossible to assess their competency in advance, or their ability to mobilize their resources in an emergency. Other potential objections include doubts about an external firm's ability to interface with internal personnel, and reservations about conflicts between the priorities of the two firms and their differing corporate cultures. Such things as the need for co-location and a lack of familiarity with the strengths and weaknesses of outsourced personnel add to uncertainty. The trust factor also looms large in the area of uncertainty. Techniques for dealing with these doubts range from educating and training personnel, to writing contracts in a way that will lessen uncertainty. But there is no sure-fire method to completely remove uncertainty from the outsourcing process; an element of the unknown is always looming on the horizon.

2. Loss of Control

Most companies are reluctant to give up too much too soon, especially mission critical applications. The solution to this may be to simply take it slowly. To become more comfortable with outsourcing, a firm may experiment with a non-mission-critical niche application like Travel & Expense. If a provider is not stable, outsourcing can be risky. It is one thing to purchase or license something such as software from a company that can be run with or without the outside vendor and quite another to turn over the day-to-day functionality of a piece of your business. When outsourcing such a service, a firm should deal with a stable company that has little chance of failing or experiencing service interruptions. (Kearney, 2000, p. 37)

There is also the issue of trusting the providing firm. Trust is a core problem. Simply put, an outsourced firm is not "family" and cannot be relied upon to act with the same loyalty. (Dove, 1999, p. 2) For instance, the supplier may have private information about the cost of accomplishing the task assigned to him. This private information gives him incentive to exaggerate the cost of completing the task, enabling him to capture greater reimbursement from the buyer. (Baiman et al., 1999, p. 2) Other issues of trust involve fear of the loss or theft of intellectual property, or concerns that the provider may be doing business or planning to do business with a competitor. (Dove , 1999, p. 2) The building of trust between firms can only occur through repeated positive experience. It is not something which happens over night.

3. Loss of Core Competencies

Another concern is that loss of core skills or competencies can produce excessive reliance or dependence on the vendor. (Greer et al., 1999, p. 91) There is a sense that such areas of expertise have strategic value and should not be outsourced. (Dove, 1999, p. 2) Such activities should be owned by the company, or the company is at risk of losing its identity as the provider of the resultant goods or services.

4. Employee Unhappiness

Employees of a firm often do not look favorably on outsourcing efforts. Though all industrial sectors are experiencing an acute shortage of knowledge workers, and the projections call for a worsening situation, the alternative of outsourcing much of this work is met with adamant objections. (Dove, 1999, p. 1) Expanding capacity or capability with an outside source is seen as direct competition for work. (Dove, 1999, p. 2) Even if the firm manages to allay the obvious fears that their jobs may be next, employees fear other implications of outsourcing. Outsourcing is seen as a loss of a learning opportunity for employees as well as a loss of upward mobility, as skills and positions are being supplied by a vendor. Also, differences between compensation terms for the vendor and those for internal employees can be the source of resentment and conflict. (Dove, 1999, p. 2) Management should address these things openly if they wish to properly engage their work force in the outsourcing effort.

5. Difficulty in Reversing

There is a sense that, once the contract it let, a firm is stuck with its vendor and the direction it is taking. Even if vendor service quality is unsatisfactory, switching costs and long-term vendor contracts block immediate improvements. (Greer et al., 1999, p. 91) The contractual relationship makes it difficult to add subtract or change elements of the statement of work. (Dove, 1999, p. 2) This is why it essential to do the proper groundwork in advance of committing to an outsourcing arrangement.

6. Risks of Failure

As with any effort by an organization, there is risk of failure. For any combination of the potential pitfalls already cited, an outsourcing effort can fall short, wasting resources and failing to produce the desired result. There is often a sense that the external firm does not share fully in the risk of the outsourced venture. (Dove, 1999, p. 2) It is not an uncommon sentiment that, if assigned a task, the supplier may not have the incentive to work as hard or as carefully in accomplishing the task as the buyer would if he retained the task. (Baiman et al., 1999, p. 2) Such fears are not groundless. The contract should be written in a way as to distribute risk and incentives fairly between the firm and its vendor, with a portion of the compensation tied to the client's overall success. Until trust and good faith are built over time, the contractual arrangement is the only method of controlling risk. The contract should be built according to a shared set of goals and objectives. If this happens, the relationship between supplier and customer is

more of an alliance. The notion of us versus them disappears, and is replaced by

teamwork. (Cannavino, 1997, p. 1)

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III. KODAK

A. INTRODUCTION

I interviewed six Kodak executives – managers and staff personnel – from research and product development areas. The similarity of their views on outsourcing, and the consistencies in the manner in which they pursued outsourcing opportunities reflected an overarching corporate approach to the practice. Although there was no published company policy regarding outsourcing – the guidelines were implicitly understood – the understanding was thorough and quite consistent among the individuals interviewed.

B. COMPANY BACKGROUND

Quality has been a hallmark of Kodak since it was founded in 1880. Its commitment to the highest quality products and services led to a high level of vertical integration within the company. By running its own laundry service, for example, it ensured that cloth used by personnel in the manufacture of film was sufficiently soft and free of detergent residue. The company also ran its own fire department, blacksmith, bank, bus service, and cafeteria, among other services. This practice continued as the company entered the 1980's. (Cash et al., 1992, pp. 516-518) Throughout its growth, Kodak maintained its hierarchical structure.

In 1984, a major restructuring of the company resulted in the creation of 18 business units and a new life sciences group. (Kodak Homepage, 2000, p. 7) The business units operated as profit centers under a general manager. Considerable downsizing occurred as business units assumed control of functions such as marketing, manufacturing, and research and development, among others. Chandler, the CEO at the time called this "a much more decisive structure," observing that "our development time to bring about new products is less than half what it was." (Cash et al., 1992, pp. 516-518)

In the years that followed, cost pressures resulting from stiff competition caused Kodak to downsize its core business and diversify into new areas including software and biotechnology through acquisitions and joint ventures. (Cash et al., 1992, pp. 516-518) In addition to decentralizing and scouting out new market domains, it began to hire members of senior management from outside, recruiting from such companies as Digital Equipment, IBM and Apple Computer. (Kodak Homepage, 2000, p. 7)

Since 1995, Kodak established a presence on the worldwide web and achieved success in such diverse activities as software development, Internet applets and networking, medical laser printing, solid state imaging sensors for security, machine vision and traffic control, and computer graphics technology. It established alliances with Space Imaging Inc. and America Online, a joint venture with Sun Chemical Corporation, and business agreements with Kinko's, Microsoft, IBM, Hewlett-Packard, Adobe Systems, Corel, Intel, and Disney. Its acquisitions include Picture Vision, and most of Imation Corporation's worldwide medical imaging business. In the spring of

2000, Kodak announced plans to open a new digital photography joint venture with Hewlett-Packard, and formed a strategic alliance with AT&T to develop and move high-quality digital images across the Internet. (CNNFN, 2000, p. 1)

C.   DIVISIONS VISITED

I visited the areas of Product Design & Development and Polymer Processing Technology, Manufacturing Process Research and Development (R&D), Manufacturing Systems Technology, R&D Product Development, and Consumer Imaging – Output Systems Division.

D.   FINDINGS

The following information was obtained during the interviews with the heads of the divisions named. (These findings are summarized in Table 1., at the end of this chapter.)

1.   Product Design & Development and Polymer Processing Technology

This area, also known as "the Enterprise" pursues research and development in the area of polymers, including injection molding and other plastic manufacturing systems. The Enterprise works early in the design and development stages on everything from the component to the full system, deciding what to make and how to make it. Its

focus is on sensitized goods (paper and film) products and new systems development. The Enterprise is comprised of process driven, integrated teams, which are run by project managers. Team members may be reassigned to other teams as the need for their talents dictates. They may also be farmed out on an ad hoc basis to provide technical support to program managers in the company.

a.   Purpose of Outsourcing

Within the Enterprise, outsourcing is regarded primarily as procurement of contract labor. It is used on a case-by-case basis, when there is a lack of time or resources for a given task. Also, if a major program comes on line at a time when the required in-house expertise is employed elsewhere, outsourcing may be used to obtain design and development services, with the contracted expert serving as an ad hoc team member for the duration of his contract. Another time outsourcing has been relied upon is during periods of downsizing, at which time people with important skill sets may be leaving the company. Outsourcing is used to fill these gaps in the organization, especially during the transitional periods, before those remaining can acquire the necessary skills.

b.   Functions That Lend Themselves to Outsourcing

The Enterprise will outsource to procure services as required, except in functional areas deemed core competencies. Teaming and project management are primary core competencies used by the Enterprise, internally and externally throughout

the company. These roles would not be outsourced, because they are among the Enterprise's primary purposes for existing. Other areas considered core, because of their proprietary nature, are product commercialization for the imaging business and discrete part plastics manufacturing. Information in these areas is of an extremely competitive nature, and is thus guarded closely. Outsourcing could compromise this security and so it is not used in support of these functions.

c. *Organizational Approach to Outsourcing*

Once the Enterprise determines the need to contract for services, local vendors may be used. But its most significant outsourcing of research and development (R&D) is done through joint ventures with universities and research consortia, in which it engages in pre-competitive sharing of knowledge and capability. One such organization with which it conducts collaborative research is the National Center for Manufacturing Sciences (NCMS), a not-for-profit research consortium of 175 North American corporations. (NCMS Homepage, 2000, p. 1)

2. Manufacturing Process R&D

Manufacturing Process R&D performs a significant R&D role within Kodak. Its primary focus is the production of discrete parts for the manufacture of Kodak products.

a. Purpose of Outsourcing

In the area of Manufacturing Process R&D, outsourcing is seen as a requirement, which was brought on by the change in Kodak's focus and strategy over the past 20 years. Kodak is moving away from the vertical integration of its earlier days and the self-sufficient mindset that accompanies such a structure. It is also redefining itself as a producer of consumer electronics. Although it is still developing proprietary technology, it is integrating existing commercial technology where it can, which involves the divestiture of some of its manufacturing capabilities. It also means that Kodak will contract vendors or "body shops" to perform either the more mundane manufacturing functions that would have previously been performed in-house or newer manufacturing processes, which it would not benefit Kodak to develop. This new approach, the result of corporate reengineering, forces the critical question regarding the manufacturing process: "Where do we add value?" If something can be performed elsewhere, more effectively or efficiently, then it is.

b. Functions That Lend Themselves to Outsourcing

As with the Enterprise, core competencies are off-limits as outsourcing targets for Manufacturing Process R&D. Core is defined primarily as those things, which are proprietary in nature, such as film manufacturing secrets. Barring such functions, outsourcing may be used, as required, to capitalize on the capabilities of contractor facilities. With such a goal in mind, outsourcing to vendors for whom the services are

core competencies is preferred over retaining the low-cost provider just to save money in the short term.

Regardless of the choice of outsourced functions, Kodak's corporate culture ensures that outsourcing decisions are conservative and well-considered. Although it is evolving, the culture still contains strong elements of the days of vertical integration, during which time everything was done in-house. Self-sufficiency as an asset and a source of pride is not an easy notion to dispel, and it is likely to be some time before it is removed from the corporate culture.

c. *Organizational Approach to Outsourcing*

The manufacturing process involves the development of major manufacturing equipment, sometimes for processes, which are "first-of-a-kind." In cases when the process is to be outsourced, a prototype for a new manufacturing system is developed by Kodak, after which it will build up to 100 units with a contracted partner. Kodak will then act as a systems integrator to combine the manufacturing processes and produce the final product. This often involves lending core competencies to other companies, or providing technology to a vendor to improve their productive capability for the accomplishment of Kodak's objectives. Such practices are seen by Hamel and Prahalad (1994) as mutually beneficial as long as "partners understand and work to protect their own unique core competencies, and where all partners are alert to both the competitive and collaborative aspects of their relationships." (Hamel and Prahalad, 1994, p. 219) If such arrangements exist, outsourcing need not cause a "hollowing out" to

occur in either firm. (Hamel and Prahalad, 1994, p. 219) As with the Enterprise, outsourcing of R&D is performed through joint research with universities and research consortia. Manufacturing Process R&D conducts collaborative research with NCMS, and The Economic Development Board, another research consortium.

(1) Obstacles. There are obstacles involved with the approaches to outsourcing taken by Manufacturing Process R&D. With regard to manufacturing repeat work, technology leakage is the primary obstacle. Body shops do work for different companies side-by-side, leaving the manufacturing process potentially in full view of a competitor. Also, employees could leave body shops, obtaining jobs with competitors. The potential for body shops to unwittingly hire "moles" from a competitor also exists. There is even the chance that the body shop itself could become the competitor. Although such things sound like the stuff of spy novels, Manufacturing Process R&D personnel know that industrial spying is rampant; something as simple as an outsourced supplier giving a facilities tour to a competitor could spell the end of the outsourcing company's competitive edge. Preventive measures are taken, such as outsourcing separate components to different vendors, effectively keeping the left hand from knowing what the right hand is doing. Also, the process of choosing a vendor is highly selective, with as many as 20 companies reviewed to find just one partner. But ultimately, a certain amount of leakage is inevitable, so it often becomes just a matter of estimating the half-life of the intellectual property, and deciding if it is acceptable.

Intellectual property rights are also an issue. When performing

collaborative research with partners or universities, the question of who gets the rights is not always easily resolved. In the case of university research, for instance, Kodak pays the bills, the university professors get academic credit, and the student gets the work. What Kodak wants in return is the patent and prerogative to restrict publishing, but it is not always a simple matter to convince the university to relinquish these things.

3. Manufacturing Systems Technology Division

Manufacturing Systems Technology Division is a part of Manufacturing Process R&D. It develops equipment, and provides engineering intensive services, software development, and even team members to cross-disciplinary product development teams. It functions largely as an internal engineering consultant for Kodak.

a. *Purpose of Outsourcing*

Outsourcing is viewed by Manufacturing Systems Technology Division primarily as a source for engineering consultants. Traditionally, in line with its self-sufficient mindset, Kodak provided its own consulting, internally. Now, with diminishing internal resources, outsourcing is viewed as more of an alternative. However, personnel are hesitant to regard it as the only option; it is a possibility, but not always the solution. When used, consultants are given specific tasks and work within the framework of the division's organization.

b. *Functions That Lend Themselves to Outsourcing*

Due to the diversity of engineering needs within the division, it is difficult to identify categories of functions or services which are considered to lend themselves to outsourcing more than others. The Tree Model was presented as a guide for assessing what functions can be performed by an external provider. It describes the perspective used by division personnel in making the decision.

Within The Tree Model, the Manufacturing Systems Technology Division provides consulting services in support of the development of equipment. It regards its expertise and infrastructure as the roots trunk and branches of a tree, the purpose of which is to produce a leaf. The product, then, is considered the leaf. Before hiring a consultant to produce leaves for the firm, management must be confident that the potential provider possesses the tree to produce the leaf with the desired cost, cycle-time and quality. It may be that few consultants possess the infrastructure to produce a leaf, in which case, this model serves as a method for selecting consultants. On the other hand, it may be that no one possesses the roots, trunk and branches, or even knows what the leaf is supposed to look like. Or, it may be that even with an understanding of the leaf, and a full view of Kodak's tree, the potential provider cannot beat Kodak's cost with their price. In such cases this model serves to identify which leaves, or products, must be produced internally.

c. *Organizational Approach to Outsourcing*

Manufacturing Systems Technology Division uses external providers for outsourced services. As was the case with the previous units visited, it works with research consortia, joint efforts with universities, and commercial consultants. In deciding which to use, certain factors are taken into consideration: (1) It must be ascertained whether the requirement is short-term or long-term. As a rule, long-term endeavors best lend themselves to universities, due to their willingness to pursue the research without strictly defined time periods. (2) If the technology being explored is emerging, universities are again the preferred approach, since commercial industry tends to stick with proven technology. (3) Universities also have the benefit of ample resources such as relevant literature and student researchers.

The division is careful to define the engineering requirement being outsourced. It is leery of hiring consultants who wish to fill the role of facilitator for the product development teams. Since teaming is one of Kodak's strengths, they are well versed in the team approach and do not require the services of a facilitator. Decisions to hire consultants are usually made by the product teams, in the context of the product development in which they are involved. The division provides recommendations based on its resource availability at the time, and reaching consensus is usually not a problem.

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4. R&D Product Development, Consumer Imaging – Output Systems Division

Kodak's sensitized goods have long been regarded as its "cash cow." (Atkins, 2000) Other areas of pursuit within the company, such as the manufacture of photographic equipment, support the sale of sensitized goods. However, Kodak's brand recognition and the use of Kodak sensitized goods depend largely on the successful introduction of the latest Kodak equipment. Equipment development covers the introduction and improvement of photographic equipment, including cameras, film, digital products, and developing and printing equipment. The two major subsections of this division – Photo Finishing and Professional Equipment – were also visited.

a. *Purpose of Outsourcing*

Within this division, as with the rest of the company, there was heavy resistance to outsourcing, early on. Outsourcing then began to occur randomly, largely driven by self-doubt within the company in the face of sudden, immense competitive pressure. The division then went through a stage during which outsourcing was seen as a cure-all, and it seemed as if everything was being outsourced. Eventually, this led to disappointments and the realization that, there are no "silver bullets;" no single approach will fix everything. After a period of critical self-evaluation and industry benchmarking, followed by a realistic assessment of the company's strengths and weaknesses, outsourcing began to be used as one of the tools in the company's strategic shift away

from vertical integration. It is here to stay in Output Systems Division, because the cost

of vertical integration is simply too high.

b. Functions That Lend Themselves to Outsourcing

This division is open to outsourcing most functions, but it is averse to

outsourcing its core functions, because of competition. Core functions are those areas of

competitive advantage for Kodak, which must be guarded if Kodak is to keep its edge.

These areas are "image science," including software and computational methods, and

"ease-of-use technology," which involves design and usability.

c. Organizational Approach to Outsourcing

Output Systems Division is comprised of teams, which make the decisions

for product development, including those concerning outsourcing. There is constant

communication among the teams, so there is little danger of one team outsourcing an

activity that is viewed as a core competency by another team. Even without the

communication, this potential does not represent a significant obstacle to outsourcing,

because of the extent to which corporate knowledge includes an understanding of such

matters. It was evident throughout the interviews that Kodak personnel are acutely aware

of what is and is not core, so teams are well versed in corporate core-competencies and

the importance of protecting them. It is part of the Kodak culture.

5. R&D Product Development Consumer Imaging – Output Systems Division/Professional Equipment

Output Systems Division/Professional Equipment section deals with the development and improvement of photographic equipment used by professional photographers. This category includes such large-scale photographers as portrait studio chains, free-lance photographers for special occasions, school photographers, commercial imaging and reprographic chains, producers of commercial posters, and the graphics, proofing and printing industries. These firms have different equipment requirements from those of the amateur photographer, and their needs are addressed by the Professional Equipment section of the Output Systems Division. The section performs its activities in project teams, which vary in size from three to 60 members, depending on the requirements of the project.

a. Purpose of Outsourcing

The Professional Equipment Division views outsourcing as a method of obtaining a skill or resource not available in-house. Outsourcing is usually used for the sake of expediency to fulfill a project team's specific requirement. As the corporation downsized and divested certain functions in its migration away from vertical integration, the teams began to look to outsourcing to get things done.

b. Functions That Lend Themselves to Outsourcing

Outsourcing is a tool of the teams, and is used in a task-specific manner. For example, a team may have the need for a software writing skill to develop a new printer driver. There are many low-cost software developers available, and writing code for printer drivers is a fairly straightforward process. Software writers within the company are often required for R&D, and so outsourcing for the driver is the obvious solution. Outsourcing is also more likely to be used to obtain more mature technology. The printer driver is established technology, and the internal software developers are usually reserved for pursuit of developments in areas of emerging technology. It is in these areas that Kodak will gain a competitive edge, and which it would like to keep in house. Once again the issue of core competency is a major determinant of whether or not to outsource a function. Core functions, also recognized by Professional Equipment as those areas, which give Kodak its competitive advantage, include image quality energetics, fundamental image science, and workflow knowledge of the photographic businesses being served. Image quality energetics is the fundamental writing technology for converting energy to media, and fundamental writing technology deals with algorithms and their implementation.

There are two reasons for not outsourcing these functions: cultural and practical. Culturally, they have always been guarded by Kodak core, because of their criticality to its competitive position; past behavior indicates that it would be inconceivable that Kodak would relinquish control of them through outsourcing.

Practically, it is unlikely that there are suppliers who know enough about the technology to meet Kodak's standards, let alone exceed them.

Tasks, which are normally outsourced by the teams, are software development, software customization, and the development of mechanical devices. Software development and customization are used most often to gain compatibility with new operating systems. In these endeavors Kodak usually advises the provider extensively, concerning requirements and methodology, and so the provider benefits from the experience, becoming more able to address Kodak's future needs. The development of mechanical devices involves model shop work, which, if performed in-house, would delay the turn-around of such things as electronic boards.

c. Organizational Approach to Outsourcing

The trend in Professional Equipment is to outsource the parts, not the whole. Corporate history and tradition, and the need to protect its competitive position are implicit guidelines, curtailing the extent to which outsourcing can be used. Decisions to outsource are made at the team level, but they are always in keeping with these implicit corporate guiding principles. When deciding whether or not to outsource, teams weigh parameters such as availability, turn-around time, and cost. Again, no formal process is in place; teams are trusted to act in the best interest of their project, while protecting their core competencies. What is core, is understood by all.

6. Consumer Imaging – Output Systems Division/Photo Finishing Equipment

Photo Finishing Equipment designs the equipment used by retailers and wholesalers throughout the world to develop consumer photographs. Users of the equipment include large developing houses, retail chains, and one-hour photo developers. Once known as Chemical/Optical, the name change came when the technology became digital. Film images are scanned and converted to digital format, and high-speed printers put them on paper to make the photographs that are presented to customers. Development of the scanners, printers, digital processors and programs that perform these functions is in the purview of Photo Finishing Equipment. With the conversion to digital format came dramatic changes to the business and skill sets required for equipment development. Outsourcing has been used to fill in the gaps along the way. As with Professional Equipment Division, Photo Finishing is made up of project teams oriented to the different pieces of equipment being developed.

a. Purpose of Outsourcing

Photo Finishing Equipment views outsourcing as a method of obtaining a skill or resource not available in-house. It is usually used for the sake of expediency to fulfill a project team's specific requirement. Outsourcing may be used more or less extensively, depending on the project team and the equipment they are developing.

b. Functions That Lend Themselves to Outsourcing

Again, core competencies are considered off-limits to outsourcing efforts, and again, they are defined as those areas in which Kodak holds its competitive edge. However, in Photo Finishing Equipment, it is recognized that there are varying degrees to which a function, if outsourced, could potentially hurt the company's competitive position – varying degrees of "coreness." The supervisor of this division classifies all technology used within the division into one of four levels in what he refers to as "The High Ground Model."

In the High Ground Model, the sum-total of the division's knowledge, or technical expertise comprises a hill, or mountain – in short, a piece of high ground. As in any tactical situation, the top of the hill, the high ground, must be protected at all cost. The further down the hill one goes, the less important the real estate becomes, until, at the bottom, little is done to hold the territory.

Technology at the bottom level is not important to Kodak's ability to compete, usually because it is fairly mature technology, the knowledge of which is widespread. Since it is not critical to Kodak's competitive strategy, it is considered highly "outsourcable." An example is photographic printing.

Higher on the hill is technology that is still considered to lend itself to outsourcing, but Kodak takes a hand in the process through specification of requirements. An example of such technology is digital processing and splicing; the ability to do it is fairly widespread, but Kodak specifies the architecture, adding value to the process and closely controlling the outcome.

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The next level up is comprised of technology that will "probably not" be outsourced. It is recently developed technology that, if kept in-house, will still provide an advantage to Kodak, but it is unrealistic to think that it will remain a secret for long; it is conceivable that it could be outsourced in the future. An example is scanning technology for film – the process by which the image on the film is scanned for conversion to digital data.

Technology, which is highly valued by the division, either because it is cutting-edge or because it is a long-held trade secret, is at the pinnacle of the high ground; it is considered so critical to the company's ability to compete that nothing will be done to jeopardize it. Since outsourcing work in this technical area would expose it to external parties, it is simply not outsourced, under any circumstances. Kodak's image science and processing algorithms (referred to as "digital emulsions"), which convert the scanned image into digital data, fall into this category.

c. *Organizational Approach to Outsourcing*

The High Ground Model is a formalized representation of ideas and sentiments that were prevalent in the other divisions visited. However, Photo Finishing Equipment Division went the extra step to ensure understanding and compliance: the entire organizational structure is developed around the model. The division is a matrix organization, with the four levels of The High Ground Model forming the rows, and the different products being developed forming the columns. Personnel are organized into product teams, which fall in a column, according to product, and a row, according to

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technology being used. A team knows, from the start, the extent to which it can use outsourcing to meet its objectives. There is never any doubt. The entire division is constructed in a way, which facilitates the outsourcing decision process. Once a team knows where it fits in the High Ground Model, it can then be entrusted with the decision. The teams decide within the guidelines prescribed by the model, so much of the call has been made for them. Those teams that fall in the top row, for example, know that they cannot outsource anything; decisions to outsource their technology can only be made at the level of the CEO. Teams occupying the other rows are likewise familiar with the extent that they can outsource. The fact that the model is the basis for the entire organization keeps it in the forefront of the minds of the team members.

E. DISCUSSION

The divisions visited held similar views on outsourcing. They saw it as a method of obtaining narrowly defined services in support of the bigger picture, over which they maintained a good deal of control, usually via project teams. In describing functions that lend themselves well to outsourcing, they ruled out core competencies, which include any knowledge or capability held exclusively by Kodak, and is thus critical to its ability to compete. With the exception of The Tree Model and The High Ground Model, none of the divisions formally addressed the issue of outsourcing; they relied on a corporate understanding, which is inherent in the workforce. In their approach to outsourcing, the decision making process was fairly ad hoc, with the teams entrusted to make the right call

in support of their product development efforts. Such an approach is reasonable, considering the uniformity of the belief, across the divisions, in the importance of maintaining Kodak's eminence in the industry, and the depth to which the implications of this belief to the use of outsourcing by the firm were understood.

Information Source	Purpose of Outsourcing	Functions That Lend Themselves to Outsourcing	Organizational Approach to Outsourcing
Product Design & Development and Polymer Processing Technology	1. Case-by-case basis, when there is a lack of time or resources for a given task 2. Used during periods of downsizing, to fill gaps	Services as required, except in functional areas deemed core competencies.	1. Local vendors 2. Joint ventures with universities and research consortia
Manufacturing Process R&D	To divest some of its manufacturing capabilities, and capitalize on the capabilities of contractor facilities.	1. Services as required, except in functional areas deemed core competencies. 2. Services which are the core competency of the vendor.	1. Partnerships with "body shops" 2. Joint ventures with universities and research consortia
Manufacturing Systems Technology Division	Primarily a source for engineering consultants	Functions for which the vendor possesses the infrastructure and technical capability (The Tree Model).	1. Commercial consultants 2. Joint ventures with universities and research consortia.
R&D Product Development, Consumer Imaging – Output Systems Division	A tool in the strategic shift away from vertical integration	Services as required, except in functional areas deemed core competencies.	Performed by product development teams as dictated by product requirements.
R&D Product Development Consumer Imaging – Output Systems Division/Professional Equipment	1. To obtain a skill or resource not available in-house. 2. For expeditious fulfillment of a project team's specific requirement. 3. To support downsizing and the move away from vertical integration.	1. Non-core tasks in support of team requirements. 2. Mature technologies.	1. Outsource the parts, not the whole to protect competitive position. 2. Performed by product development teams as dictated by product requirements.
Consumer Imaging – Output Systems Division/Photo Finishing Equipment	1. To obtain a skill or resource not available in-house. 2. For expeditious fulfillment of a project team's specific requirement.	1. Non-core tasks in support of team requirements. 2. Mature technologies.	Organizational framework is designed around outsourcing philosophy (The High Ground Model)

Table 1. Summary of Findings at Kodak

IV. BELLSOUTH TELECOMMUNICATIONS

A. INTRODUCTION

I interviewed three BellSouth Telecommunications (BST) executives, two of whom had been in charge of major outsourcing efforts between 1996 and 2000. I also viewed a video recording of a 1997 briefing given by BST CEO to the company's managers. The similarity of the executives' views and approaches to outsourcing and their consistency with the philosophy espoused in the CEO's brief reflected an overarching corporate approach to the practice. An executive directive delineates outsourcing policy to the entire BellSouth Corporation of which BST is an operating company. The directive provides general guidelines for decision-making, vendor selection, contract terms, and organization involvement in the outsourcing arrangement. Since the guidelines at BellSouth are explicit, one could expect that the understanding was thorough and consistent among the individuals interviewed.

B. COMPANY BACKGROUND

BellSouth opened for business in 1984, an amalgam of several operating companies. The largest of these companies were South Central Bell and Southern Bell – two of the Baby Bells created by the AT&T split-up in 1980, which together accounted for 95 percent of BellSouth's revenues in its first year of operations. In 1991, BellSouth

realigned South Central Bell and Southern Bell into a combined operation called BellSouth Telecommunications (BST). In 1995, South Central Bell and Southern Bell changed their brand names to BellSouth, completing the transition. (BellSouth, 2000, p.1)

BellSouth's operating companies include BellSouth International, Bell South Entertainment, and BellSouth Advertising and Publishing Company. BellSouth now has more international wireless customers than U. S. wireless customers, with wireless licenses in 10 Latin American markets. It provides wireless digital television services to several cities in the southeastern U.S., nationwide Worldwide Web access for handheld computers, and online yellow pages to 38 markets. It ended 1999 with 3 million miles of fiber. Nine out of 10 BST customers are within 12,000 feet of a broadband fiber connection. BellSouth Solutions is the industry's first integrated service connection package to include Internet, wireless, paging and local phone service with calling features – all on one bill and with one number for service, and through strategic alliances with other telecommunications firms, BST is exploiting the market for broadband services. At the close of 1999, BellSouth was adding a new customer somewhere in the world every 10 seconds. Although its other operating companies are growing, BST remains BellSouth's largest component, providing local telephone service to nine states in the southeastern U. S.

BST's core competencies involve leveraging its communications network. This includes technology planning, and network design, control and maintenance. It also includes selling connections and providing customer service to maintain a satisfied

clientele. BST's business focus is connecting any two customers in the manner in which they desire. The network is central to this purpose.

C.   DIVISIONS VISITED

I visited the areas of OPR and Information Technology, two departments, which have undertaken outsourcing initiatives since 1996. I also viewed a "Brown Bag Briefing" to the company's managers by the CEO of BST.

D.   FINDINGS

The following information was obtained during the interviews with the heads of the divisions named. (These findings are summarized in Table 2., at the end of this chapter.)

1.   CEO's Brown Bag Briefing

Brown Bag Briefings are periodic talks given to the managers of BST by its CEO. They are given at different corporate locations, and broadcast live throughout the company via a corporate television network. At the briefings, key issues are discussed, corporate progress is reviewed and employee achievements are recognized. The briefing given in October 1997 was of particular significance because of the extent to which the CEO discussed outsourcing, which he regarded as a strategic objective. The CEO

pointed out that outsourcing had been happening at BST for a long time, citing that such things as telephone pole placement, heavy construction, and advertising had been performed for BST by outside firms for the past 20 to 30 years. These activities were given to firms for whom they were core competencies. He recognized that now, as initiatives approached what many believed to be BST's core functions, it was becoming a larger concern for employees. (Brown Bag Briefing, 1997)

a. *Purpose of Outsourcing*

During his briefing, the CEO pointed out that in the past outsourcing was done for cost reductions alone, but now there are three reasons to outsource: (1) reduce costs (2) shift the company's cost structure from fixed to variable; (3) obtain increased capabilities and innovation. With regard to cost reductions, he pointed out that cheaper should not be the only goal, but enhanced quality should also be sought.

The shifting of the cost structure from fixed to variable concerns the need to be able to react in a competitive marketplace. In an expanding market BST would have to expand those activities performed in-house, hiring and training additional people to meet the increased demand. If demand for BST's services decreased dramatically, layoffs might be required. For activities that are outsourced, these concerns go away; the provider would absorb the surge or slack in demand, giving BST more flexibility. The presumption is that the firm providing the activity would have capacity for larger volume and larger changes in volume than BST's, since the activity is the vendor's core

competency. BST would simply pay more or less to the provider, according to the number of negotiated units of activity it consumed. (Brown Bag Briefing, 1997)

By outsourcing activities to firms for whom those activities are core competencies, the CEO maintained that an increase in capability and innovation would also be gained. Since the providing firm specialized in the activity, it would possess skills beyond those held in-house. By tapping into this expertise, BST would remain more current with regard to the outsourced activity; this could be leveraged for continuous improvement in the services it provided its customers. (Brown Bag Briefing, 1997)

b.   *Functions That Lend Themselves to Outsourcing*

The CEO stated that while, historically, outsourcing was used for activities not considered core, it was now beginning to involve areas that many would consider core competencies. He described what he saw as an outsourcing continuum, with support services at one end, and core activities at the other. The support services included things such as reprographic and mail services, which had been outsourced in 1996. Core activities were those things involving the telecommunications network. He maintained that BST was gradually moving toward core with its outsourcing efforts and felt that, in 1997, it was at about the center point on the continuum. The CEO emphasized that outsourcing a function does not imply that it is unimportant; to the contrary, he wanted it done better because of how important it is. Outsourcing a function

simply means that there are companies that can do it better and cheaper for BST than BST can for itself. (Brown Bag Briefing, 1997)

c. Organizational Approach to Outsourcing

It was clear, throughout the briefing, how much emphasis the CEO placed on the people of BST. They were a primary consideration in the outsourcing initiatives he discussed. While updating management on the progress of outsourcing projects in progress at the time, he was careful to point out the effect they were having on the company's personnel. In one initiative, of 1200 people (900 management/300 non-management) whose jobs were being lost, all of them found work with the vendor to whom the work was being outsourced. In another case, of 900 management jobs lost, 95 percent were offered work with the vendor. In a third case, of 950 management jobs lost, one half were relocated within BST, and 90 percent of the other half were hired by the vendor. It was clear that the CEO was proud of the figures and of BST's ability to care for its people and continue to leverage their expertise. He noted that, if anything, BST acted too quickly in internally repositioning the people in the last case, because it left the vendor scrambling to fill vacancies, which delayed its ability to come up to full strength. The proper disposition of people and their abilities in a way that most benefits the employees, the vendor, and BST is the primary concern when approaching an outsourcing project. This was evident throughout the briefing. (Brown Bag Briefing, 1997)

The CEO closed his comments on outsourcing by commenting that, with

the exception of the projects for which he provided updates, there were no major

outsourcing initiatives on the horizon at the time. However, he emphasized that in a

competitive environment, it is imperative to look for every opportunity to improve – even

if it means outsourcing. (Brown Bag Briefing, 1997)

2.   **Outside Plant Records**

BST's "outside plant" consists of the cables, poles, manholes, terminals, climate-

controlled vaults, and other facilities that comprise its physical communications network.

The plant's book value is currently over 40 billion dollars, and includes equipment that

has been in use since 1898. Outside Plant Records (OPR) keeps track of the location,

physical and functional description, utilization, configuration, and dollar value of every

asset in the outside plant. In addition to plant maintenance, the records are used by BST

for tax purposes. With a network spanning nine states, the plant equipment is spread

across many tax districts, using an assortment of easements, and public and purchased

rights of way. The records are essential in determining how much tax is owed to whom.

OPR is comprised of a headquarters staff and field activities. The two types of

field activities are Regional Maintenance Centers (RMC's) and a Regional Land Base

Administration Center (RLAC). There are five RMC's in the western region of BST and

one RMC in the east. The western RMC's are manual, and the one in the east is

automated. The number RMC's was reduced in the early 1990's in a consolidation effort

to capitalize on functional integration and process teaming.

Records on new equipment are begun at the design stage. When the Outside Plant Engineering Department engineers and designs a new plant facility or a modification to an existing one, it generates an Engineering Work Order (EWO). One copy of the EWO is sent to the construction activity to initiate construction or modification, and one is sent to the area RMC for initial data entry. When the task is completed, the record of the work performed is also sent to the RMC, which then reconciles it with the original EWO. Discrepancies between the EWO and actual work performed are escalated by the RMC for resolution at the appropriate level within the organization. The RMC also performs work measurements, quality assurance/quality control (QA/QC), financial input for depreciation and taxes, tax annexations and data base administration. One of the key outputs of the RMC is a drawing or print for each piece of equipment, displaying its location and configuration. The RLAC creates maps of regional subdivisions, showing the street location of all plant buildings and equipment. It also tracks county, municipal, and tax district boundaries, and performs "polygon management," to optimize the distribution of connections over different sections (called "polygons") in a geographical area.

a.   *Purpose of Outsourcing*

OPR's reasons for outsourcing are in line with those given by the CEO in the Brown Bag Briefing. Cost reduction is a driver. In 1996, BST ranked fifth of five local phone companies in the region in terms of cost per access line. After implementing cost savings initiatives, including outsourcing, they are now first.

Traditionally, the regulatory bodies used capital base to set earning; now the focus is on price instead, so cost reduction became more important.

OPR also cited the need to move from a fixed to a variable cost structure. Traditionally, most homes were equipped with one phone, which they regarded as indispensable. In the event of an economic downturn, it was unlikely that many homes would do away with their phone to save money. Such a client base was stable and predictable. BST's market was unlikely to shrink, so it was not vulnerable to the economic cycle. Now, with BST providing additional services, such as extra lines, Internet connections, and cell phones, it is more susceptible to economic shrinkage. BST must, therefore, be more flexible to respond to changes in the economic cycle. Increased competition, which may require cost cutting, also demands more flexibility. If either an economic downturn reduces the BST's need for OPR's services, or competition causes further cost cutting, the variable component of OPR's activity could then be reduced without the need for layoffs or loss of core expertise. If outsourcing was used, OPR need only renegotiate their outsourcing contract for a smaller volume. Conversely, in a time of growth, OPR does not have to hire and train new people; it can simply increase the volume in the contract.

OPR outsourced the majority of its RMC functions in 1996 due to corporate downsizing. Divisions within BST, which were already down to only one subject matter expert (SME) in certain areas, would be forced to terminate the SME's in order to meet headcount reductions, which were planned for 1996 and 1997, to cut costs. Believing "it was better to shoot one dog on a sled team than to cripple all nine," OPR

volunteered to outsource the RMC's to save other divisions the loss of their SME's. (Peak, 2000)

b. Functions That Lend Themselves to Outsourcing

Traditionally, those activities that lent themselves to outsourcing were those that did not involve core competencies. OPR recognizes that such non-core activities as administrative services and reprographics are the easiest to outsource. But OPR also believes that a vendor can perform core activities as long as the outsourcing firm keeps a core team of their own people involved in the process. This ensures that the company will maintain control and also maintains the core competency within the company. When it comes to core competencies, no vendor will get a job for which in-house capability does not exist.

c. Organizational Approach to Outsourcing

By outsourcing its RMC's in 1996, OPR handed over to a vendor a function it viewed as a core competency. The bulk of the RMC's activities – data input, reconciliation, first level escalation, first-level QA/QC, work measurements, and input to finance – were outsourced. It retained only the functions of database administration and tax annexations, believing them central to corporate strategy and the purpose of OPR. The organizational structure of OPR was changed by the outsourcing move. Originally, the RMC's work was performed by 275 BST employees – 125 at headquarters and 150 at the RMC's. Prior to the outsourcing, it was decided to place 45 of the 125 headquarters

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personnel in key planning and control positions at the RMC's. (OPR would later give much of the credit for the success of the outsourcing initiative to the control maintained by this core group of 45.) The work of the remaining 230 positions was outsourced to a vendor who performed the work with 140 people. The vendor's manning grew to 195 over the first three years of the outsourcing arrangement, as BST's growth required an increase of 250 percent in RMC productivity. Prior to transfer of services to the vendor, the RMC's were producing prints at an average cost of 34 dollars per equipment drawing or print. At the time of the transfer, the vendor was producing them at 28 dollars per print. Now, 4 years later, the vendor has reduced costs to 17 dollars per print. Because of its efficiency and the quality of its work, OPR is gradually ceding increased functionality to the vendor. The outsourcing of the RMC's is seen by OPR and BST as a success.

(1)   OPR's Success Factors. OPR identified several factors that contributed to the success of its outsourcing of the RMC's: (1) Data management, a large aspect of the outsourced RMC functions, is the core competency of the vendor, not BST. Although the RMC function, taken as a whole, is viewed by OPR as a core competency, constituent functions of the RMC were found that were not core; (2) The core group of 45, kept in planning and control positions, allowed OPR to maintain control of the RMC operations. By placing 22 people in the western region RMC's and 23 in the east, OPR was able to keep its "hands on the reigns." (Peak, 2000) The control had to be maintained, because legal issues require BST to oversee the product. But, strategically,

the control was important because the RMC's as a whole comprised a core competency. As such, they helped "define the firm in the minds of the customers and provide access to new markets," and "need[ed] to be kept in-house." (Hamel and Prahalad, 1994, p. 211); (3) Although the vendor agreed to consider all BST employees when hiring to fill positions for the contract, it was the younger, more energetic and innovative people who got the jobs. When combined with the young "techies" already employed by the vendor, they made a more effective, efficient workforce than the one being used by BST in-house; (4) OPR "didn't get wrapped up in project management." (Peak, 2000) The project team was comprised of only four in-house members – one RMC manager from the east, one from the west, one union member and one technical support person. The team also included one contracted member, who served as a team secretary and, occasionally, as a sounding board due to previous project experience. The team relied on simple techniques such as to-do lists and Gant charts to track progress, taking a low-keyed approach to the project to prevent project management from eclipsing the project being managed; (5) Throughout the outsourcing process, the BST worker was always a top consideration. The vendor agreed to hire BST people, and, if the project failed, it was required to give them back. BST provided resume development services and training courses in management and technical skills. The union member was placed on the outsourcing project team not just for his expertise, but to ensure constant communications with as much advance notice provided to the union as possible. While the openness of the process maintained a dialogue with the union, it increased the risk of union opposition. Also, as the likelihood of outsourcing grew stronger, a fully informed

workforce was more likely to "jump ship." This, in fact, happened at one RMC. The decision to outsource was arrived at in the middle of December. The vendor's start date was to be the first day of the following July. An agreement with the union required that they be informed 45 days in advance that date – May 15. In the interest of giving employees as much time as possible to make their transitions, OPR announced the decision on January 1. The employees at one RMC quickly found employment elsewhere, leaving the RMC essentially unmanned for the next six months, with no one to perform an orderly turnover to the vendor. However, disaster was averted when the former employees came in after hours and on Saturdays to continue the RMC's work and help train the vendor's people in RMC procedures. The good faith shown by OPR to its people during the outsourcing process paid off. An annual employee survey, given when OPR was in the middle of the outsourcing decision process, showed OPR employee morale in the top half of employees at BST. OPR credits concern for its people and open communications.

3. Information Technology Operations

Information Technology Operations (ITO) at BST is used for billing, customer service, operations, network management, and enterprise services, which include human resources, payroll, general ledger, finance, facilities management, and security.

a.   *Purpose of Outsourcing*

Although cost savings is a consideration for ITO, it is not a primary driver. There were four other reasons serving as bigger motivators: (1) Quality improvement was desired at every service level. IT was not considered a core competency at BST. By outsourcing to a firm for which IT was a core competency, ITO hoped to gain access to the most current IT skills available, which would make it better at serving the needs of BST; (2) ITO hoped to use outsourcing to move from a fixed to a more variable cost structure, to respond more flexibly to BST's changing service requirements; (3) ITO was in the process of consolidating from five data centers to two. It felt that outsourcing could help with that process; (4) ITO wanted to outsource to take care of people. By providing BST employees with job opportunities with the IT vendors, BST would be placing them in a company for which IT was a core competency. As IT professionals, the employees would then have more upward mobility, more training, and more exposure to technology. They would also be in an environment in which there was a greater need for their services.

b.   *Functions That Lend Themselves to Outsourcing*

Every function performed by ITO can be described as filling one of three roles within the department: plan, build or run. Planning involves decisions about how IT will be used to conduct the company processes. This often involves redesigning the processes themselves, and integrating them within the company. It also involves the designing of hardware and software systems to accomplish the processes.

Planning is conducted by integrated teams, consisting of members from ITO, the

departments requesting hardware and software changes, and the departments affected by

the changes. The planning role exerts considerable control over company policy and

direction. Because of this control aspect planning is considered core and, therefore, was

to be kept in house. Building involves putting together the systems, which will perform

the processes. Since the purpose and functionality of the systems is determined in the

planning stage, building is considered to lend itself to outsourcing; it involves merely

assembling the systems to meet requirements established in planning. Running the

systems after they are built is also something, which can be outsourced, because it

involves simply carrying out procedures, which are determined in the planning and

building stages.

c. *Organizational Approach to Outsourcing*

In 1996, ITO conducted its IT transformation effort, which

resulted in the outsourcing of two major aspects of the IT service it provided to BST:

operations and software development. Operations involves running hardware with

existing programs to perform the work of BST. Operational functions are seen as

straightforward and easily defined. Also, operational functions are easily measured.

For example, operations can be purchased by such units as central processing unit (CPU)

hour, tape or print feet, gigabyte of storage, or direct access storage device (DASD,

which is a general term for magnetic disk storage).

Software development involves the development and improvement of programs for use in operations. Software development is not as easily defined, and does not produce easily measured outputs. Although the use of function-points[1], to measure software functionality, and, therefore, software designer productivity, is the accepted industry standard, it is still less straightforward than the units for measuring operations.

The transformation process began with a coupling of key BST people with a consultant to develop an IT strategy. IT service management developed Business Relationship Managers (BRM's) to interface with BST's business units to ensure that their needs were incorporated into the strategy. Once the strategy was developed, outsourcing was considered as a means of obtaining services. A business case analysis was done to explore the financial ramifications, and it was determined that operations and software development should be outsourced. Once potential sources were identified, a team of evaluators reviewed their proposals without knowing bid amounts. The purpose of this was to assess the quality of service without being swayed by cost considerations. Cost would eventually be considered but this assessment was on the grounds of quality alone.

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[1] Function Points and the Function Point Model are measurement tools to manage software. Function Points measure software size and functionality by measuring the fulfillment of functional requirements. They attempt to quantify and document assumptions in estimating software development.

Two separate vendors were chosen – one for operations and one for software and the plan was briefed to the CEO for approval. The work of 1700 BST employees was outsourced in the area of operations and 1900 employees in the area of software development.

(1) ITO's Success Factors. ITO identified several factors that contributed to the success of its outsourcing efforts: (1) Solid employee relations were critical to the success of the outsourcing initiative. ITO maintained constant communications with employees, ensuring that they were informed of the outsourcing process at every step. They obtained agreement from the vendors to hire BST employees, and worked with the vendors to develop a benefits package, which was comparable to what BST had provided. Employees received severance pay and, to ease the transition, they received additional bonuses for remaining with the vendor for at least one year. (2) ITO worked to keep competitive pressure alive by maintaining an in-house capability, and keeping abreast of what other IT service providers had to offer. This kept them from becoming too dependent on the vendors. (3) ITO developed an exit strategy, by which the vendor would have to make the former BST employees available for hire by a replacement vendor, if such a move was deemed necessary by BST. In addition to ensuring that BST expertise would remain at BST, this strategy added to the security of the employees who wanted to remain working with BST.

(2)   ITO's Lessons Learned. ITO identified the following lessons learned: (1) Operations proved more suited to outsourcing than software development. Its functions filled the "run" role within ITO and, as such, they were comprised of well-defined procedures. This, combined with the easily measured output, made the outsourcing of operations easy to initiate and easy to monitor. The measurable output of operations was also well suited to the move to a variable cost structure, since BST paid only for the amount of contracted units used. Software development did not enjoy the same success. Much of software development fills the planning role since it involves analyzing processes within the company and designing software programs to accommodate these processes. Because of the planning aspects at every stage of software development, it is core to BST, and should therefore be performed in-house. Its output is also not as easily measured as operations. Even with the use of function-points, software functionality is not easily measured, since the number of function-points required for a given functionality can vary widely, depending on the programmer. Therefore, ITO negotiated to measure the software development contact by labor hours instead. So, although it was outsourcing to obtain software enhancements ITO ended up paying for hours of vendor labor, effectively purchasing a level of effort, which did not always yield the desired results. (2) Software development is not as variable as operations. The 30 days notice, which was required for vendor staff cuts, limited ITO's flexibility. (3) ITO sent all of its programmers to the vendor, retaining no planners, IT managers, and BST SME's. This limited the control they could exert over an activity they considered core.

E.   DISCUSSION

Although the core competency issue figured strongly into outsourcing initiatives

at BST, it was not the only consideration. Other factors (e.g., source availability, ease of

integration, measurability, oversight, and employee relations) informed the outsourcing

process. Measurability, oversight and employee relations lessened the impact of the core

competency concern. The following considerations were identified during the interviews.

1.   Source Availability

The availability of sources to perform the desired activities at a low level of risk

was a consideration. To attain the low level of risk, it was important that the activity

being outsourced was a core competency of the potential provider firms. Also, more than

one source was desirable in order to achieve competition. OPR and ITO stressed the

need to create a competitive environment by maintaining an in-house capability. ITO let

it be known that they were staying abreast of competitive companies.

2.   Ease of Integration

The ease with which the provider can integrate with BST depends on the nature

of the activity and the number of interfaces the activity has with other functions in the

company. In the case of OPR, the activities of the RMC's were well defined and routine

in nature. The RMC's had few interfaces throughout BST, and these relationships were

well defined. Similarly, ITO's operations functions were well defined and routine, as

were their interfaces throughout the company. This was not the case with their software

development. The development and enhancement of software for the company required interaction throughout the firm, for the purposes of defining and often enhancing processes, which were diverse and changing. The fewer interfaces and well-defined interaction of the RMC's and ITO operations were more amenable to outsourcing than the more complex Software development activity.

3.   Measurability

The ability to assess the effectiveness with which an activity is supporting BST is important to the outsourcing process. Measurability is required to establish a basis for evaluating the provider and paying the provider for services. With well-defined metrics OPR and ITO could provide incentives more effectively. In the case of software development, the difficulty in defining metrics for productivity was a stumbling block to the outsourcing process. Had a better method of measurement been devised, the core nature of the software development process would have been less of a concern.

4.   Oversight

Keeping supervisors and key people in place was one of the primary success factors given by OPR for its RMC outsourcing. The lack of control resulting from having outsourced everyone, and keeping no controlling body in place, was seen as a problem for ITO in outsourcing its software development. By maintaining a core body of SME's in place, OPR was able to outsource what it considered core competencies. ITO would

have had more success with the software development initiative had it maintained more oversight.

5. Employees Relations

Outsourcing is seen by the workforce as a threat. Both OPR and ITO benefited From open honest communications with employees. By including employees in the process and keeping employee interests at the forefront, they were able to demonstrate how much the employees could gain from the outsourcing process. Concern for the welfare of the workforce at BST was evident throughout each outsourcing initiative discussed. Once the employees trusted BST, and embraced the outsourcing initiatives, they could begin contributing to their success. Also, in the process of providing job security for employees by ensuring they would be hired by the vendors, BST kept corporate knowledge and expertise on the job, lessening the limitations on outsourcing core competencies.

Information Source	Purpose of Outsourcing	Functions That Lend Themselves to Outsourcing	Organizational Approach to Outsourcing
CEO's Brown Bag Briefing	1. Reduce costs. 2. Shift the company's cost structure from fixed to variable. 3. Obtain increased capabilities and innovation. 4. Enhanced quality.	Although historically used for non-core activities, now beginning to involve core competencies.	Emphasis on the proper disposition of people and their abilities in a way that most benefits the employees, the vendor, and BST.
Outside Plant Records (OPR)	1. Reduce costs. 2. Shift cost structure from fixed to variable. 3. Obtain increased capabilities and innovation. 4. Support downsizing.	1. Non-core parts of activities that, when viewed as a whole, serve a core function.	1. Break activity into its constituent parts and outsource those that are not core. 2. Maintain control of core functions.
Information Technology Operations (ITO)	1. Quality improvement. 2. Shift cost structure from fixed to variable. 3. Assist with consolidation effort. 4. To take care of people; provide BST's IT professionals opportunity with the IT vendors.	1. Functions categorized as "build" and "run" functions. 2. Not "plan" functions.	1. Coupled key BST people with a consultant to develop an IT strategy. 2. Developed Business Relationship Managers (BRM's) to interface with BST's business units to ensure that their needs were incorporated into the strategy. 3. Performed business case analysis to explore financial ramifications.

Table 2. Summary of Findings at BellSouth Telecommunications (BST)

V. DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

A.   INTRODUCTION

In its use of outsourcing to achieve reform and efficiencies in the military, the Department of Defense (DoD) builds on its experience through the continual monitoring of its own efforts. Although it conducts a continuous evaluation of its military and civilian workforce to identify functions to be competed, (NPR Homepage, 2000) knowledge of corporate approaches to outsourcing would be useful in tailoring DoD's approach to its outsourcing efforts. Kodak and BellSouth Telecommunications (BST) provide valuable lessons and models for use in devising an outsourcing methodology for DoD.

B.   ORGANIZATIONAL PARALLELS

Although Kodak and BST differ in terms of their products, markets, and strategies, they have characteristics in common with DoD, which enhance the exportability of lessons and models from Kodak and BST to applications within DoD.

1.   Common Characteristics

Kodak and BST share the following characteristics with DoD: (1) they are traditional hierarchies that are in various stages of evolution towards a process driven,

integrated teaming approach to management. (2) They are vertically integrated organizations, in the process of divesting themselves of functions that are seen as peripheral to their core competencies. (3) They experienced large downsizing efforts in the past decade, in order to contend with environmental demands. (4) They posses a strong culture and tradition. (5) They have a history of providing a well-defined product in a narrow, stable market domain.

a.   Hierarchical Structure

Throughout most of Kodak's first century, it was a centrally controlled hierarchy. Its restructuring into business units in 1984 marked the end of that arrangement. As the interviews indicated, the departments and divisions within the business units are further divided into process driven teams. BST, long a part of the centrally controlled AT&T also has a hierarchical past. Since the early 1990's, it has also developed a more team-driven orientation as indicated by the move by Outside Plant Records (OPR) to more integrated, process-driven Regional Maintenance Centers (RMC's), and Information Technology Operations (ITO's) teaming approach to information technology (IT) planning. DoD's hierarchical past is slowly giving way to a more integrated approach. Process teams are being used for everything from weapon systems introduction to inventory control and logistics support.

b.   Vertical Integration

Kodak's was a vertically integrated company for most of its history, expanding to fill every need that arose. BST's predecessor, AT&T was vertically integrated, performing even heavy construction and pole-placement until its break-up in 1980. Anyone visiting a military installation up into the 1980's can attest to the extent to which DoD was vertically integrated. Everything from large-scale maintenance to retail and recreational services were provided to DoD, by DoD.

c.   Downsizing

Kodak's downsizing began in the 1980's as part of cost-cutting efforts in response to stiff competition in Kodak's previously undisturbed market domain of film. Downsizing at BST was part of cost cutting in the late 1990's, which was initiated to reduce its cost per access line in order to remain competitive. DoD downsized throughout the 1990's in response to funding cutbacks resulting from rising deficits and the end of the Cold War.

d.   Culture and Tradition

Throughout the interview process, the corporate culture at Kodak and BST was evident, at every turn. The employees at both firms were aware of corporate history, and identified strongly with their companies. Employees also indicated intense loyalty to their firms. The same is true in the military, an organization in which tradition is

routinely emphasized, and patriotism and identification with service branch are seen as primary motivators for members.

e. *Well-Defined Product*

Kodak's products – film and paper – were well defined. Even photographic equipment and development techniques, for which Kodak was well known, were marketed primarily as a vehicle for film and paper sales. It dominated and protected this narrow market domain for nearly a full century before the appearance of Fuji Film. In the last decade, Kodak broadened its scope, moving towards identification as a consumer electronics firm. BST, first as part of AT&T, then as part of BellSouth, dominated the local telephone business. Its product – local phone service – was well defined. Now, as innovation within the field of telecommunications brings new developments to the fore, BST expanded its scope to include wireless, Internet and other services for which it can leverage its network. DoD expanded its scope in recent decades. In addition to its well-defined role as a war fighter, it has now has additional roles, which include acting as a global police force, providing peacekeeping, disaster relief and drug interdiction services, to name a few.

2. Organizational Type

Organizational descriptions put forth by Miles et al. (1978) are useful in describing the evolution through which Kodak, BST and DoD are moving.

a. "Defenders"

Before the 1980's, Kodak, BST and DoD each fit the description of a "defender" organization, as described by Miles et al. (1978). A defender provides a stable set of products to a well-defined market segment, which it aggressively maintains. It is identified by a limited range of products, and a highly specialized and formalized organizational structure. A defender seeks to stabilize its environment, and buffer it from change. It maintains dominance by continually increasing the efficiency with which it performs its core technology. Reluctant to exploit new areas of opportunity, it relies on the viability of a narrow market domain, and realizes growth by deeper penetration into this domain, as opposed to a broadening of scope. (Miles et al., 1978, pp. 30-48) Kodak stayed within its market domain of film and imaging and photographic equipment, and its product development was closely related to the goods it was already providing. BST exploited the domain of local phone service alone. DoD fought wars in support of American national interests. The three organizations kept within the confines of their narrow domains.

b. "Analyzers"

Kodak's restructuring and diversification into previously unexplored market sectors such as pharmaceuticals, copiers, and digital products, and BST's expansion into wireless and Internet marked the end of their defender status. They had begun to display "prospector" characteristics. A prospector continually innovates, seeking to exploit new markets. (Miles et al., 1978, pp. 49-67) However, even though

both companies are exploring new markets for growth, they are not true "prospectors," because they did not abandon the domains over which they had control. Kodak still relies on the sale of sensitized goods, and BST still depends upon its local telephone service. They adopted a new view toward product development, diversification and market penetration, ultimately displaying the traits of an "analyzer." An analyzer is a hybrid of the defender and the prospector, which strikes a balance between competing in a well-established market segment and using innovation to penetrate new markets. (Miles et al., 1978, pp. 68-79) Kodak maintains a dual technological core, with one foot planted firmly in film and paper manufacturing and the other resting in the area of digital imaging market exploration and new product development. Likewise, BST remains dominant in the local telephone industry while looking for new innovative ways to exploit its telecommunications network.

In DoD, shrinking budgets and a changing mission and are forcing Innovation in much the same way as increased competition and evolving markets forced it at Kodak and BST. DoD may not be exploiting new markets but it is beginning to rely on the prospector's innovation to succeed in a changing environment. Evidence of such innovation is seen in the Business Process Reengineering Program (BPRP), which was established by DoD "to improve the overall effectiveness of the Department by streamlining business processes and centralizing the management of technology." (Electronic College of Process Innovation, 2000, p. 2) Old defender strengths, such efficiency, are no longer seen by DoD in the positive light they once were: "You can have the most efficient process in the world, on paper or in a model, and still not have a

"world-class" operation." (Electronic College of Process Innovation, 2000, p. 7) Also the National Performance Review (NPR), the over-arching initiative that emphasizes making the Federal government work better and cost less, is compelling DoD and the other Federal agencies to reinvent themselves. To fulfill this mandate, DoD is relying on its reengineering of business processes. (Electronic College of Process Innovation, 2000, p. 2) With DoD's strong emphasis on innovation and its continued dominance of its old core technology, it is exhibiting analyzer traits in much the same way as Kodak and BST.

C. MODELS FOR CONSIDERATION

With the similarities that exist among Kodak, BST and DoD, it is reasonable to expect DoD to benefit from the experiences of Kodak and BST. I have selected four models, two each from Kodak and BST as potential sources of understanding and experience from which DoD can profit. The models are The Tree Model and The High Ground Model from Kodak, and the OPR and ITO outsourcing initiatives from BST.

1. The Tree Model

Within The Tree Model, expertise and infrastructure are seen as the roots trunk and branches of a tree, the purpose of which is to produce the product, which is considered the leaf. Before hiring a vendor to produce leaves for the firm, management must be confident that the vendor possesses the tree to produce the leaf with the desired cost, cycle-time and quality. The appeal of The Tree Model is its simplicity, but it is that

simplicity, which may cause the concepts it emphasizes to be overlooked or taken for granted. By depicting an organization's expertise and infrastructure as the roots trunk and branches of a tree, and its output as the leaf, the model stresses the importance of technological capacity. This becomes especially important when the uniqueness of military functions is considered. In its efforts to privatize, DoD must not forget the importance of the vendor's capability to deliver a product that will perform in a military environment. As cutting-edge technology is directed more to the commercial sector, DoD is filling its requirements with "off-the-shelf" technology that may not always make the grade. Also, it is important, before divesting itself of its "tree" that DoD is confident not only that the vendor, but the vendor's potential competition possesses a comparable tree. Otherwise, DoD could become over-dependent on a single provider. Finally, DoD must be confident that the tree will always be at its disposal, especially during wartime. The Tree Model addresses vendor capability and availability, but there are functions, so central to DoD's mission, that should not be outsourced, regardless of how many trees are available. These functions are addressed by The High Ground Model.

2.   The High Ground Model

In the High Ground Model, the sum-total of the division's knowledge, or technical expertise comprises a hill, or mountain – in short, a piece of high ground, the top of which must be protected at all cost. The further down the hill one goes, the less important the real estate becomes, until, at the bottom, little is done to hold the territory. Technology resides at different levels on the hill based on its importance to the

corporation's ability to compete. The Kodak division employing this model is a matrix organization, with various levels of The High Ground Model forming the rows, and the different products being developed forming the columns. Personnel are organized into product teams, which fall in a row, according to technology being used, and a column, according to product. Each team knows from the start, based on its height on the hill, the extent to which it can use outsourcing to meet its objectives.

Besides its obvious military metaphor, the High Ground Model is applicable to military organizations at every level. Structuring the organization around a framework that reflects the corporate outsourcing strategy serves to continually reinforce that outsourcing strategy. As intriguing as is the High Ground Model, and the method by which it is employed, it almost seems redundant in an organization with such uniform, firmly held conviction toward outsourcing as Kodak's. However, as the company continues enter into more partnerships and joint ventures, and hires more people from other firms, the old corporate culture will likely fade, and along with it, the uniformity of opinion. It may become more difficult to identify outsourcable services by feel alone. The understanding of what is and is not right for Kodak – easily taken for granted now – may one day have to be taught. The need for a formal decision system will then become more evident, and, to the extent that it is woven into the organization, it may be able to serve as a substitute for the corporate consensus now in existence. The High Ground Model seems quite suited to this purpose. And the implementation of it now, when the corporate understanding is still in existence, positions it nicely to help with transitions that lie ahead. As the military seeks to outsource more services, the line between what is

core and what is not may begin to blur. If DoD's corporate understanding of core competency were formalized, and the organization restructured to reflect it, this would prevent certain services, which are core not only with respect to the military's capability, but with respect to national security, from being outsourced in the name of innovation. The reasons behind the vertical integration throughout DoD may not be as clear as they once were, but they may be just as important.

3. The OPR Outsourcing of the RMC's

Although DoD should continue to perform its core functions in-house, it should also be able to determine which of its functions and sub-functions are not core. The OPR outsourcing of its RMC's is a good example of an organization outsourcing a function that it considered a core function, until it was divided into its constituent parts. Many of the parts were able to be outsourced without threatening a core competency. OPR identified other success factors that could be useful to DoD: (1) OPR's core group of 45 ensured its control of core functions within the RMC's. Such control is comparable to the military's command and control element. There seems little danger of the military sacrificing command and control in an operational scenario, but, as part of an outsourcing effort in an administrative setting, it might inadvertently hand control over to a vendor. (2) By refusing to "get wrapped up in project management," (Peak, 2000) OPR avoided the bureaucratic entanglement that threatens initiatives in DoD. A small project team was designed to provide basic representation and maximum flexibility. Also, it was found that simple, proven management techniques usually prevailed over problems faced by the

team. (3) By making the BST employee a priority throughout the outsourcing process, BST not only received their support during the RMC initiative, but set a precedent of good faith that will help secure employee support of outsourcing efforts in the future. Its demonstrated concern for its people, and its open communications went a long way to allay the fear and uncertainty such initiatives always cause among employees. DoD constantly strive to win the trust and confidence of its employees, if it expects their support of something as threatening as an outsourcing effort.

4. The ITO Outsourcing of Operations and Software Development

Even if functions within DoD are closely related, they may not be equally suited to outsourcing. This is illustrated by the difficulties encountered by ITO when it tried to outsource its software development function. In spite of the success it had with the outsourcing of IT operations, and the perceived similarity between operations and software development (they were both IT after all), ITO learned that, when it came to outsourcing, differences existed between the two functions that outweighed their similarities. The routine nature of IT operations and the ease with which it is measured made it well suited to outsourcing, unlike software development whose planning and control aspects and difficulty of measurement hindered the outsourcing effort. Other aspects of the ITO outsourcing of IT services make it a valid model for DoD: (1) By divesting itself of its all of its programmers, allowing its planners, IT managers, and BST subject matter experts to be employed by the vendor, ITO relinquished control of a core function, which it recognized as a mistake. This lends credence to OPR assertion that the

control exerted by its core group 45 was a success factor. Luckily ITO had an exit strategy, maintaining access to the expertise, in the event the relationship with the vendor did not work out. As with the OPR example, this parallels DoD's command and control, which may be neglected in an administrative setting. (2) ITO stressed the importance of a good-faith relationship with employees as a success factor. Its recurrence as a success factor – OPR cited it as well – emphasizes its significance in an outsourcing effort. (3) ITO stressed the need to keep competitive pressure alive by among vendors. This is important for DoD if it does not want to become too dependent on any one vendor.

D.   CONCLUDING COMMENTS

The central theme throughout the interview process was the issue of corporate core competencies. "Some competencies, which are core and uniquely define the firm in the minds of the customers and provide access to new markets, need to be kept in-house." (Hamel and Prahalad, 1994, p. 211) In the The Tree Model, the tree represents core competencies. In the high ground model, the high ground is reserved for core competencies. OPR cited its ability to identify and control core functions as a major success factor in its outsourcing of the RMC's. ITO's success with its outsourcing of IT operations was based on the fact that IT operations was not core, and its problems with outsourcing of software development derived from difficulties it encountered trying to retain control of a core competency. "Decisions on what to own and what to outsource

are aided by a deep understanding of what is and what isn't a "core" competence" (Hamel and Prahalad, 1994, p. 211)

Rather than taking corporate knowledge of core competencies for granted, DoD should establish "a deeply involving process for identifying core-competencies" and "explicit stewardship roles" for these competencies once they are identified. (Hamel and Prahalad, 1994, p. 235) Because core competencies are so central to corporate identity and employee loyalty, DoD should "regularly review the status of existing and nascent core competencies," and build "a community of people within the organization who view themselves as the "carriers" of corporate core competencies." (Hamel and Prahalad, 1994, p. 235) In this way, DoD will be able to outsource while retaining control of functions critical to its ability to defend national interests. Also, it will reduce the perceived threat of outsourcing among the workforce, and engender the loyalty and support throughout the organization, which is so important to the success of outsourcing.

E. RECOMMENDATIONS

The following recommendations are offered for consideration by DOD organizations when conducting an outsourcing effort: (1) know the capacities of the DoD organizations and the prospective vendors to provide the services for which outsourcing is being considered; (2) know the DoD's organization's core competencies, and ensure that they are understood throughout the organization; (3) maintain control of core competencies; (4) split activities into their constituent functions to facilitate the

outsourcing effort; (5) simplify the outsourcing process and minimize bureaucracy; (6) keep competition alive among vendors; (7) keep good faith with the workforce.

1.   Know Organization and Vendor Capacity

The focus of The Tree Model, this is especially important in light of the uniqueness of military functions and operating environments. Before outsourcing, DoD should be confident of the vendor's capability to deliver a product that will perform in a military environment. As, DoD seeks to fill requirements with "off-the-shelf products, effort must be made to ensure that they will meet performance expectations in a military setting.

2.   Know Organizational Core Competencies

The High Ground Model is devoted to the understanding of core competencies, and the incorporation of this understanding throughout the organization. Knowledge of core competencies was important to OPR's outsourcing effort, and a lack of this knowledge with regard to software development hindered ITO's effort. DoD organizations must determine their core competencies, and disseminate this information to their work force if they are to successfully engage in outsourcing initiatives.

3.   Maintain Control of Core Competencies

Control of core competencies was cited by OPR as a success factor in the outsourcing. By keeping a core group of people in charge of the planning and control

3. Maintain Control of Core Competencies

Control of core competencies was cited by OPR as a success factor in the outsourcing. By keeping a core group of people in charge of the planning and control functions within the RMC's OPR was able to keep its hands on the reigns of the operation. By outsourcing software development ITO was gave a "plan" function (considered core) to a vendor. Further, by divesting itself of its all of its programmers, ITO failed to maintain even partial control of this function. This was later recognized as a mistake, and seen as an obstacle to success. DoD organizations should not relinquish control of core competencies to vendors. By maintaining control of core functions, DoD organizations will be able to outsource while maintaining its ability to defend national interests.

4. Outsource Predictable and Measurable Activities

The ability to assess the effectiveness and efficiency with which an activity is Supporting the organization is important to the outsourcing process. Measurability is required to establish a basis for evaluating the provider and paying the provider for services. In the case of ITO's outsourcing of software development, the difficulty in defining metrics for productivity was a stumbling block to the outsourcing process. With well-defined metrics DoD would be able to better assess its own performance of functions being considered for outsourcing. And, in the event outsourcing was decided upon, DoD could better assess contractor performance, and provide incentives more effectively.

5. Split Activities Into Constituent Functions

When taken as a whole, the RMC's looked to be a core function, but when split up many activities were revealed that were not core, and lent themselves well to outsourcing. By breaking activities into their constituent parts, DoD may find many services, previously thought core, to be made up of non-core functions, which can be outsourced. Any constituent activities that are core in nature can continue to be performed in house, much as those at the RMC's were.

6. Simplify the Outsourcing Process

Minimization of bureaucracy, a success factor for OPR's outsourcing of the RMC's should be continually striven for in DoD outsourcing efforts. By avoiding the pitfalls of bureaucratization and empowering the teams, organizations will keep the focus on the project at hand, and maintain employee interest and involvement. Project teams should be streamlined, and proven management techniques, with which the team is comfortable, should be employed where possible. Progress should be tracked with content stressed over form in presentations; team members recruited for expertise in the area being considered for outsourcing should not be evaluated on their expertise in graphics presentations. If an outsourcing project team is able to influence an outsourcing effort in ways that benefit the organization, it will be more likely to embrace the effort, which will increase the chances for success.

7. Keep Competition Alive Among Vendors

As pointed out in The Tree Model, it is important, before divesting itself of its "tree" that an organization is confident not only that the vendor, but the vendor's potential competition possesses a comparable tree. ITO also stressed the need to keep competitive pressure among vendors. If vendors are vying for the business of DoD activities, they will have incentive to not only maintain productive capability but to continually improve it. Not only will DoD avoid becoming over-dependent on a single provider, they will benefit from the innovations resulting from the competition.

8. Keep Good Faith with the Workforce

Solid relations and open communications with the workforce were cited by OPR and ITO as success factors in their outsourcing initiatives. ITO also cited concern for employees and their career development as a reason to outsource, seeing vendor employment as a better opportunity for their IT professionals. Workforce considerations drove contract conditions and implementation plans. In the case of the RMC outsourcing, OPR risked being unmanned for months in order to keep the workforce informed. Trust between decision makers and those affected by the decisions is essential if outsourcing initiatives are to succeed. A proper analysis of the proposed outsourcing and an orderly turnover to the vendor, in the event that outsourcing is decided upon, depend on a workforce that is engaged in the process and not threatened by the outcomes. DoD organizations should keep their workforce educated, informed and involved with regard to any outsourcing initiatives they undertake.

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APPENDIX.

Interviewees at Kodak and BellSouth Telecommunications (BST) were provided the questions below in advance of the interviews. Although the interviews began with a review of the questions, the discussion was not limited to them.

Outsourcing Questions

1. Why do some functions lend themselves more to outsourcing than others?

2. Which functions do you consider exempt from outsourcing?

3. Do you think of outsourcing as a cost-saver, quality-enhancer, act of convenience, or strategic act?

4. What obstacles do you see to outsourcing?

5. What does your organization do to encourage outsourcing?

6. If there is a standard formal decision process to determine whether to outsource a function,

   a. At what level does the decision authority reside?
   b. What levels participate in the decision process?
   c. Is a business case analysis required?
   d. What justification is required?
   e. Are strategic implications considered?
   f. Are costs and performance factored in?

7. If there is not a standard formal decision process, how have you handled the recent outsourcing of a function in your area?.

8. What do you consider your top three "core" functions? What makes them "core?"

9. Are you in favor of outsourcing core functions?

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